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process, which was described to the Academy, in the course of which it lost one foot and two entire legs. This summer again, during the latter part of August, the animal moulted; the moult as exhibited is a perfect cast of the large spider—skin, spines, claws, the most delicate hairs all showing, and their corresponding originals appearing bright and clean upon the spider. The moulting occurred during Dr. McCook's absence, but was just finished when he returned. When the cast-off skin was removed it showed, as might be supposed, the dissevered members to be lacking. But on looking at the spider itself, it was seen that new limbs had appeared, perfect in shape but somewhat smaller than the corresponding ones on the opposite side of the body. The dissevered foot was also restored. The loss of the opportunity to see the manner in which the legs were restored during moult was greatly regretted; but we have some clue from the careful and interesting studies of Mr. Blackwall. Several spiders whose members had been previously amputated, were killed and dissected immediately before moulting. In one of these the leg which was reproduced was found to have its tarsal and metatarsal joints folded in the undetached half of the integument of the old tibia. Another like experiment was made with an example of *Tegenaria civilis*. The reproduced leg was found complete in its organization, although an inch in length, and was curiously folded in the integument of the old coxa, which measured only one-twenty-fourth of an inch in length. Dr. McCook's tarantula had lost both legs close up to the coxæ, and in the moult the hard skin formed upon the amputated trunks was wholly unbroken, showing that the skin had been cast before the new leg appeared. We risk nothing in inferring that, as in the case of Blackwall's *Tegenaria*, the rudimentary legs were folded up within the coxæ, and appeared at once after the moulting, rapidly filling out in a manner somewhat analogous to the expansion of the wings in insects after emerging.

Messrs. Henry F. Claghorn and Emanuele Fronani were elected members.

OCTOBER 2.

Mr. THOS. MEEHAN, Vice-President, in the chair.

Twenty-eight persons present.

The death of Charles Magarge, a member, was announced.

The Synchronism of Geological Formations.—Professor ANGELO HEILPRIN, referring to one of the many vexed problems which from time to time engross the attention of geologists and naturalists, namely, the contemporaneity of geological formations, stated that the order of deposit of the various formations, from the oldest to the newest, was constant the world over, and that nowhere, except

wholly destroy plants in some instances, must have an enervating influence where it does not wholly destroy, and this would naturally be exhibited in shortening the life of the tree.

The climate of Alaska had the same favoring influences we found in Great Britain. The warm sea of Japan flowed against its southeastern face, along which the trees referred to were found. The atmosphere was always moist, and severe weather almost unknown. At Sitka, in lat 57° , as much as 100 inches of rain had fallen in a single year. The harbor was rarely frozen; boats came in and went out at all times of the year. There were some winters when no ice of any consequence was seen. These were circumstances favorable to longevity in trees.

Mr. Meehan concluded by remarking that Dr. Lindley had said somewhere that his researches had failed to show that there was any period of duration of life set for any tree, and that if circumstances favored there seemed no reason why trees might not live for an indefinite period, and, therefore, arguments offered in connection with the "wearing out of varieties," based on what is called the "natural life of a tree," had little force. Mr. Meehan believed his observations on the longevity of trees on the Pacific confirmed Dr. Lindley's views. At any rate, there seemed nothing phenomenal in the age of the *Sequoia gigantea*, as other species partook of similar longevity to a great extent.

Prof. Angelo Heilprin was elected Curator, to fill the vacancy caused by the death of Charles F. Parker.

OCTOBER 9.

The President, Dr. LEIDY, in the chair.

Thirty-two persons present.

The Council reported the appointment of Prof. Angelo Heilprin as Actuary to the Curators, or Curator-in-charge.

Mineralogical Notes.—Dr. LEIDY exhibited a large crystal of topaz, from Mursinsk, Siberia. It is pale blue, with perfect termination, and weighs three pounds three ounces. He also exhibited large cut specimens of white topaz and rich green beryl, which had met with a curious accident. The two, in unpacking, had been violently struck together, and the former had been broken through the middle so as to exhibit a perfect cleavage.

OCTOBER 16.

Mr. THOS. MEEHAN, Vice-President, in the chair.

Thirty-seven persons present.